

In the Claims:

1 - 19 (canceled)

20. (currently amended) A device for ~~implementing the process according to claim 13~~
the recovery of a gaseous phase from a liquid fluid on a commercial scale by at least
partial evaporation of the liquid fluid or of at least one of the components contained
therein or by setting free one of the components formed by thermal transition of the
liquid fluid, said device comprising a modular falling-film evaporator ~~containing at least~~
~~one stack~~ consisting of stacked vertical or inclined plate-type modules, said device
comprising a modular falling film evaporator containing at least one stack of vertical or
inclined plate-type modules, at least every other module ~~being designed as an~~
~~evaporator module in that it features~~ featuring one or several spaces[[,]] through which a
heat exchange fluid can flow, and gap-shaped evaporation chambers between the side
surfaces of essentially equal-sized rectangular modules, with the surfaces facing each
other, wherein the evaporator modules feature a set of parallel micro-channels on at
least one side facing the gap-type evaporation chambers, the orientation of the micro-
channels corresponding to the direction of the liquid fluid stream flowing therein by
gravity and/or capillary forces, and a device for feeding a liquid fluid into the micro-
channels, the gap-type evaporation chambers being open at the top and/or bottom
essentially over the entire width of the module, and that at least one stack being
arranged in a vessel equipped with a device for withdrawing a gas phase and a device
for withdrawing a liquid phase.

21. (previously presented) The device according to claim 20, wherein the gap-type evaporation chambers are open at the top and bottom but closed at the sides and that a back-flow of a gaseous phase leaving the gap-type evaporation chambers at the top into the lower section of the gap-type evaporation chambers is prevented by a partitioning element arranged between the vessel wall and the stack.

22. (previously presented) The device according to claim 20, wherein the evaporator modules comprise two or more horizontal zones, at least one zone featuring a set of parallel micro-channels and every zone being equipped with separate devices for feeding and withdrawing a heat exchange fluid.

23. (previously presented) The device according to claim 20, wherein at least two stacks are arranged axially or laterally off-set above each other in one or more communicating vessels, the evaporator modules of the lowermost stack featuring a set of parallel micro-channels on at least one side as well as a device for feeding a liquid fluid, and a device for feeding a gas into the gap-type chambers being arranged at the lower end of each stack.

24-25 (canceled)